

ESTABLISHED 1848

RURAL
WORLD

COLMAN'S RURAL WORLD

DEVOTED TO AGRICULTURE HORTICULTURE HORSES CATTLE SHEEP SWINE ETC.

Established 1848.

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COLMAN'S RURAL WORLD

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Published every Wednesday, in Chemical building, corner of Eighth and Olive streets, St. Louis, Mo., at one dollar per year. Eastern office, Chalmers D. Colman, 520 Temple Court, New York City. Advertisers will find the RURAL WORLD the best advertising medium of its class in the United States. Address all letters to COLMAN'S RURAL WORLD, Chemical Building, St. Louis, Mo.

While the RURAL WORLD is published at one dollar a year, it has temporarily allowed old subscribers to send actually NEW OR TRIAL subscribers with their own subscriptions at fifty cents a year, in order to largely increase the circulation and influence of the paper. This price is less than the cost of the white paper, presswork, folding, wrapping, mailing and preparing the postage, saying nothing of any other of the large expenses of maintaining offices, paying salaries and conducting such a paper in a large city. Renewals, unless accompanied by one or more NEW subscribers must be at one dollar a year. All names are dropped as soon as subscriptions expire. The month named on the address tag, pasted on each issue, shows the month subscriptions expire, and renewals should be made two or three weeks before, so that names shall not drop out of list. It is gratifying to the proprietor to be able to state, in his half century's experience in conducting this paper, it has never enjoyed the patronage and prosperity it now does. Its circulation is increasing in a wonderful degree, and its advertising patrons, many of whom have used its columns for a quarter or a third of a century, are more than pleased with results. Let all our friends unite and press forward in extending its sphere of influence. It will do for others what it is doing for you, so get others to join the great RURAL WORLD army and receive the same benefit.

The Alton, Ill., Horticultural Society will meet next Saturday, June 8, at Mount Lookout Park, the beautiful residence of Major H. G. McPike, in Alton, Ill. This place has been the scene of many a picnic and has been the place where the society has held its annual convention. Major McPike cordially invites the RURAL WORLD editors and their horticultural and pomological friends to be present.

THE DROUTH.

A very serious condition with respect to growing crops exists at this writing, as will be seen by the notes from correspondents on page 8 of this issue, and the Crop and Weather Bulletin on the same page.

A press dispatch from Topeka, Kan., dated June 3, says a drouth of four weeks in Kansas is broken and that rain has been falling throughout Central and Eastern Kansas all night. We trust that before this issue of the RURAL WORLD will have reached its readers rain will have fallen throughout the drouth-stricken district. In the meantime don't give up, even if the oats are ruined and other crops badly injured. There are other quick growing crops for which there is yet ample time to mature. It is the resourceful man that wins in farming as in other lines.

EXPENDITURE OF LABOR.

Farmers are usually very careful as to how they spend money, but they are not always so judicious in the way labor is expended. The writer has vivid recollections of long hours spent during a large portion of the summer months weeding alleys and the sides of the high vegetable beds in the garden. This work was faithfully done and hoe and trowel were the only implements that were provided. There was a good garden, but no profit from it. The lettuce bed was large enough to supply a half dozen families, and long after lettuce ceased to be relished by the family, that bed was kept free of weeds. In fact, the entire garden was planted in the same generous proportions, and less thrifty neighbors were annually provided from it "free gratis for nothing."

If the garden had been planted in long rows and given level culture, much of that useless and hard work would have been most profitably eliminated from our gardening, and a horse could have done much that was done.

Yet there is a judicious expenditure of labor that is profitable. In the majority of farming communities there is the habitual "three times" method of cultivating the corn field, when it is "laid by." Now, if the field was cultivated the fourth time and the yield per acre was increased five bushels, would not it have been a most profitable expenditure of labor?

Farm management, unlike many other

activities, depends for profitable results on the farmer; then, too, even the most careful management will bring some kind of results, and the fact that absolute failure in all crops is not feared, makes one at least partially satisfied with a "well done," instead of a "best done."

One of the hardest working farmers we ever knew, was at all times—from early morn till late at night—literally on the run, but his labors were so misdirected, that despite his hard work, he lost his farm. Of course, this unfortunate man declares "farming doesn't pay." It is well to diligently inquire whether our labor is being wisely and profitably spent. Labor which improves the appearance of the farm is profitable in that it makes one more contented, and then, if the farm is offered for sale it will bring a better price. Some farm work is of a temporary character, such as was the weeding of the alleys in the garden, and such work should be performed accordingly, but work that is to be permanent should be most thoroughly done. The way that labor is expended will solve many of the unprofitable farm problems.

AERATION OF SOIL.

C. D. Lyon expresses some doubt in his article on this page as to the absolute necessity of soil aeration to the growth of a plant, and then gives some examples which go to show that the necessity seems to be at least not a very pressing one in those instances. One has but to go along the streets of any city with his eyes open to see numerous proofs of the proposition that soil aeration is not as much important to plant growth as one might infer from first considering the point. Many trees will be seen where practically the whole surface over the root area is seemingly made absolutely impervious to moisture or air from above by a granite sidewalk on one hand and a macadam, granite block or asphalt pavement on the other. Yet these trees grow and flourish if the coal smoke does not kill them. We are told that to insure crops of plums the best thing to do is to pave the ground under the trees with brick or flag stones. True, the paving is done for the purpose of circumventing the curculio, but the fact remains that it must at the same time prevent aeration of the soil to a considerable extent.

Prof. Roberts says in his valuable book, "The Fertility of Land": "If the soil is compact and the interstices filled with free water or silt, it will not contain enough air for best results, and therefore plowing for the purpose of letting the air enter the ground, as well as to promote drainage and absorption of moisture, may be advantageous. The roots of plants, like fishes, require air, and although they require only a little, that little is necessary to their life and growth. The soil always contains some air." Just how little air there can be in the soil and meet the needs of the plant roots we do not think the investigators have determined, but we are inclined to the opinion that the amount is so small that natural forces unaided by man will usually make it ample. In other words, we are inclined to question the need of plowing for the purpose of promoting aeration of the soil; yet this is the position taken by Dr. Roberts, Professor of Agriculture in Cornell University. It is a question for further consideration by our readers. Possibly many of us are holding erroneous opinions as to why we plow; and to the extent that we are, then is our whole procedure in crop growing apt to be wrong.

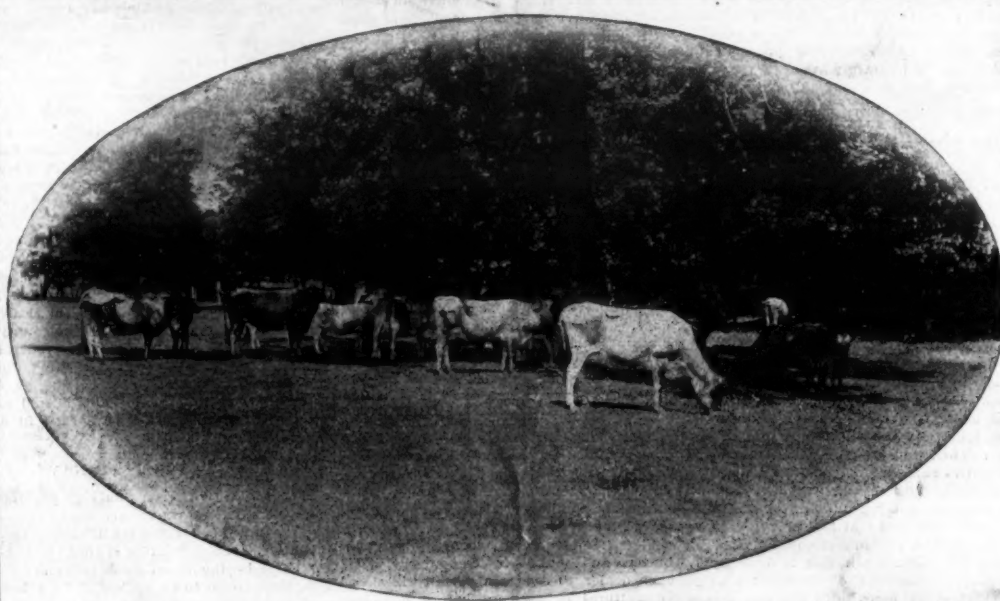
TARPAULIN.

The harvest season will find the mowers, reapers, rakes and other implements required for cutting and storing hay and grain ready for duty. But how many will provide a tarpaulin? Because it may not be needed, doubt is given the balance of weight and no tarpaulin is purchased.

The farmer who has ever owned one, and who has protected the open stack of grain from the drenching given by that unexpected thunder shower, will fully testify to the profitableness of the investment. Nothing is so discouraging as to have hay or grain ruined in the stack. The labor of the season may be much damaged, or much additional labor required in the opening of a stack to dry which might have been saved by a tarpaulin.

NOTES FROM THE CLIFF.

Editor RURAL WORLD: The usual routine in this country is a late spring, caused by wet weather, delaying corn planting and promoting the growth of weeds. Last spring the rain continued until it was almost impossible to clean the corn fields and many were abandoned. Considerable of an acreage was not planted at all. This season has been to the reverse of all former experience. The protracted drouth and cold weather have been very injurious to vegetation. There was but little rain during May, and the soil became as dry as powder. The corn that came up is of a feeble growth and of a yellowish color. Much of that planted did not come up at all, and at this date the situation is rather discouraging. "The Farm Home" of L. A. Spies, as illustrated in the RURAL WORLD of May 23, is a true representation and a familiar picture to us. It is situated a few miles south of here, and one among the fine residences of this part of the state. Nothing speaks so well for a farming



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community as neat and commodious dwellings and surroundings, substantial improvements, and "everything in order."

Another impressive evidence of enterprise and prosperity is good school and church buildings. A progressive people take pride in the appearance of their schoolhouses and church edifices, and in such localities advancement is being made along educational lines. Much has been said relative to rural schools, and yet much more could be profitably remarked if only the words spoken would produce the desired results.

What a vivid picture of progressive life is portrayed by a neatly arranged schoolhouse with a bright interior and exterior, made so by the provision of the necessary facilities, and how much more readily and happily do the pupils advance in educational lore preparatory for usefulness in after life. The remuneration obtained exceeds the expenditure far beyond possible estimate, and is a practical lesson that once learned is of vast benefit to those who judiciously apply its teachings. Bright homes, bright schools, bright children and bright influences make bright lives and a bright, happy and useful career for all.

The embellishment of the bright pages of the RURAL WORLD with a portrait of its able Washington correspondent, S. F. Gillespie, was an excellent idea, and of interest to its many readers. To us it was especially interesting. The lifelike and familiar portrayal of our typographical chum of other years brought vividly to mind happy remembrances of those days of intimacy that cemented a bond of friendship that has endured through all the years that have since elapsed. His advice to the other correspondents to "go and do likewise" was good and we hope will be heeded.

DYPE.

THAT HIRED MAN QUESTION.

Editor RURAL WORLD: I have been a careful reader of the discussions of the "hired man" problem as presented in the RURAL WORLD. The hired man is a very important factor in agriculture, as well as in the mechanical and commercial world. But in no class or grade of work are his duties as varied and unclassified as in the farm. In factories his work is assigned to some one particular part of a piece of machinery, and usually his wages depend on the amount of work performed in a workmanlike manner. He works a certain number of hours a day, and when he fails to keep up with the procession and perform his work properly and be on hand promptly at the hour for beginning, he falls out, and the place he has failed to fill is taken by another, and the procession goes on, everything moving like clock work.

But a different condition exists on the farm. Seldom do two farmers handle men and manage their work alike. One farmer will expect his men to begin the day at an unusually early hour in the morning, and will work them until night overtakes them. Another begins early and quits at a reasonable hour in the evening, while another begins the day late, and late all day, and works far in the night with rigid regularity.

It takes an average hired man some time to learn what his employer expects of him, and then it is uncertain whether he can possibly do in kind and quality what is expected of him. The very nature of farm work is such that thorough system is impossible. The weather is always a governing and yet a very uncertain factor in farm operations.

L. E. Shattuck strikes a happy thought in the theory of education, but that should be largely on agricultural lines to be of worth to his employer. One of the best laborers the writer ever had was about as illiterate as the team he drove, and I am of the opinion an education would have unfitted him for anything. Don't understand me to be opposed to education, but there are individual cases where it would work more harm than good. We

are told by those of the more Southern states that a smattering of schooling so "elevates" the negro that he quits manual labor and seeks a place in the business world, and consequently many of his race are not self-supporting, simply from the fact they will not labor, and there is no place that offers for him in a professional or business line.

There is a disposition to criticize farm hired hands, which is to be deplored. When lined up with an equal number of farm owners, and those who employ them, they will make a fair average. The per cent of unworthy, dishonest and unreliable men among them will not exceed those who follow other means of livelihood.

A good many years ago a landlady said to me, a comparative stranger, that she liked the idea of regarding all men as rogues and villains until they proved themselves otherwise. I prefer to treat my hands as honorable gentlemen until they break my confidence. Some employers treat their hands as if they were underlings. I aim to put mine on an equality with myself. I pay the maximum wages of our country, and am entitled to the best hands in the county. My experience, covering twelve years, with never less than one and generally two regular hands, to whom I furnish food and clothing, has been that the most expensive piece of property I can handle. Loss in time squandered, or in misdirected work in my absence or in loss in live stock or in unnecessary and careless damage to machinery and implements will overreach any reasonably reduction in the wages of the so-called "cheap" hand as compared with an honorable man, who knows what is right and fair, and is willing to earn good wages, and who does appreciate good treatment.

Hire a cheap man and get into a big harvest, or let bad weather strike you with a big lot of stock to care for, and he will strike for more wages, or worse, without a day's notice quite you could.

W. D. WADE.

THE PLOWING QUESTION.

Editor RURAL WORLD: The writer is sorry that we did not begin a discussion of this matter earlier in the season, as readers could then have tested the matter in their own fields; now it is too late. Friend Phillips mentions a point on which I am in doubt, that is, in regard to the necessity of deeper breaking in southern latitudes. There is no ironclad rule in the matter of deep plowing, but I am sure that many of its advocates will be brought to the light as have been the old time advocates of deep cultivation. If Mr. Phillips were to visit me and look at my hillside field broken to a depth of four to six inches for the past 30 years, and then look across the springbranch to one nine inches, he would see no washed gullies in mine, while the neighbor's was washed so badly as to almost prevent a wagon being driven along its slope; so much for deep plowing as a means of preventing washing of the surface soil on two adjoining nine-acre fields of the same slope.

Brother Moore and I will not quarrel over one point. Deeply plowed land will absorb more water from the bottom of the furrow to the surface—no deeper. Then when the soil becomes saturated, and a "slip" starts, the greatest damage to the land is done as all the fertile soil many inches deep is washed away. To-day, May 25, I took the horses and plow and went out into the field to see whether Mr. Moore or myself were right in regard to those "open spaces." The field was nearly level blue grass soil 11 years old, and the plowing was done in the week of April 7-14, at a depth of four to five inches. It was harrowed with a 48-tooth harrow two weeks ago, and it has rained three out of five days for nearly three weeks. I plowed three furrows 50 feet

long, crossing the original plowing and an inch deeper. The "open spaces" were there just as the plow left them, many being large enough to admit of the handle of a large monkey wrench being shoved in its full length and many of them would be there next October if I did not disk, harrow and drag the land before I make tobacco hills next week, and do this to the full depth of breaking.

As to forming what is often called a "plow bottom," by plowing at a uniform depth, I will say that we do not encounter this trouble; so far as I am concerned, I have never seen it, but I have never farmed in a country where frost did not penetrate more than plow depth. Now, Bro. Moore, we will notice the capillary attraction "part of the matter." You admit that the capillarity of the soil is "in a measure" broken by the process of plowing. In the deep plowing capillarity is broken at eight inches from the surface. On the top of the millions of hair like tubes which are to carry up moisture, lays a mass of grass tops, trash and roughly broken sod with an air space here, and a long tube formed by two overlapping furrows there. This array of obstacles says to the soil moisture, "this far you shall come, and no farther." Then unless the farmer has implements that will reach deep enough to fine the top soil down to these tubes he is defeating one important object he had in mind when he plowed the land, "conservation of soil moisture," and all the dust much he may make two inches thick at a distance of six inches from a mass of earth unperturbed will avail but little in case of drouth.

As to "aeration of soil," I am by no means certain that this is an absolute necessity to the growth of a plant. I once saw a mammoth tobacco plant grow up between the curbstone and the paved gutter in a large town. The plant grew to near maturity when the space was not harvested, for its stalk and it withered and died. I saw two large stalks of corn grow up through a four and one-half inch hole in a plate of iron 4x5 feet and an inch in thickness. The roots of these plants could have had but little air, yet they grew and thrived as few plants do. A plant root can penetrate even a stone, and it is folly to say that it cannot reach down into the unbroken soil, but a plant root cannot grow in the air, and it must necessarily turn aside and pursue a devious course in order to reach its nourishment and moisture, when it strikes a point where there are air spaces or where the capillarity of the soil is broken and moisture must come alone from the top soil by the rains that fall upon it. Let everyone who can make an experiment in the way of shallow plowing and then next winter report on its merits and demerits. While the rule of shallow cultivation is almost "ironclad," that of shallow breaking may not be in all cases, yet for our soil we find it to give us better crops and less waste by washing off of soil.

C. D. LYON.

Southern Ohio.

EAST TENNESSEE FARMERS' CONVENTION.

Editor RURAL WORLD: The East Tennessee Farmers' Convention, the three days' session of which recently closed in Knoxville, was one of the most enthusiastic and successful gatherings ever held by this organization. Despite the floods and the pouring rain the meetings were well attended and a conservative estimate places the attendance on the different sessions at between 600 and 800, probably the largest attendance at any one time would not exceed 500. The meeting was essentially a gathering of farmers and the enthusiasm manifested is best evidenced by the fact that there were frequently as many as five or six farmers on the floor struggling for recognition at one time. The discussions were of the liveliest character and showed plainly the evident thirst for knowledge with which the farmers were imbued. The meeting was pronounced by Ex-Governor Hoad, Prof. Shaw and other equally well

known agricultural authorities as one of the most enthusiastic and interesting from start to finish which they had ever attended. Particular interest centered around the discussions and speeches of Ex-Governor Hoad and Prof. Shaw on the subjects of dairy and stock husbandry. These two well known speakers won the hearts and confidence of the audience from the first inception of the meeting. "The Larger Per Cent of Profit" and the "Necessity of Changing Methods" pursued on dairy farms were subjects discussed by Ex-Governor Hoad with telling effect, while the subjects of "Growing Beef Cattle" and "How to Make the Cheapest Pork," by Prof. Shaw aroused an equal degree of enthusiasm.

The subject of sheep husbandry was thoroughly threshed out and many valuable facts concerning this industry were brought to light, and it is safe to say that as a result of this meeting sheep husbandry will be more extensively engaged in by many farmers of the middle South.

Few of the subjects discussed aroused more intense interest than that of the short course in agriculture offered by the University of Tennessee. As the chairman said, it was likely to turn into a regular experience meeting, as every boy who had attended and every farmer who had a son in the course wished to add his testimony to this excellent, cheap and effective means of furnishing scientific combined with practical information to the farmers of Tennessee. It is safe to say that the attendance on the short course will double the coming winter and no better evidence could be had to show the value of the work accomplished by the East Tennessee Farmers' Convention or to emphasize how clearly the farmers of this section now realize the value of education in their work.

The subjects of alfalfa and red clover came in for their full share of discussion, and it was evident from the experience of many that these crops offer great possibilities in Tennessee. The demonstrations witnessed on the Experiment Station farm fully substantiated the ideas presented by practical farmers, and doubtless the area of these crops will be materially enlarged in Tennessee in the next few years. This means the production of cheap protein on the farm and will accomplish results of immense value and aid materially in the development of the important stock industries in this state.

The subject of "Breeding Horses and Mules for the Present Market Demand" received its share of attention, and the facts brought out concerning this industry were of much value to Tennessee breeders. The natural environment of this state makes this business one of more than passing interest and good results will undoubtedly follow the discussions of this subject.

It would not be proper to close this report without referring to the representative nature of the convention, there being farmers in attendance from several states outside of Tennessee, and the attendance being more widely distributed in Tennessee than ever before in the history of the organization. The assemblage being so representative, the dissemination of useful information through the medium of the delegates will have a more far-reaching effect than has ever been the case heretofore.

It is safe to say that never before has such a fine array of agricultural talent and representative newspaper men been gathered together at a meeting south of the Ohio River. Among them may be mentioned: Ex-Governor W. D. Hoad of Wisconsin, Prof. Thos. Shaw of Minnesota, Hon. Geo. W. Hill of Washington, Hon. Thos. H. Paine of Nashville, Hon. R. T. D. Harmon of Pittsburgh, Hon. Robt. L. Burch of Nashville, Prof. A. S. Hitchcock of Washington, Hon. Geo. F. Weston of Baltimore, Prof. W. M. Scott of Atlanta, Hon. A. F. Hunter of Philadelphia, Hon. Jos. E. Wing of Ohio, Hon. W. G. Sadler of Nashville, Dr. J. B. Hunnicutt of Atlanta, and others. A fine musical program also formed a feature of the meeting, and the reception provided for the visiting delegates was certainly not the least enjoyable of many treats.

Probably one of the most instructive features of the convention was the trip to the University farm on Thursday afternoon. The dairy barn and stable herd of cows was carefully inspected. The dairy building was in full operation with the manufacture of butter, cheese, etc., going on, and a careful inspection was made of the 500 field plots of grasses, grains, clovers, forage crops, etc. The farmers were delighted with what they saw on the Experiment Station farm, and expressed the keenest appreciation of the work being done there. About 500 of the delegates made the inspection. It was a revelation to most of the visitors to sample some of the cheese made by the students of the dairy school last winter. Its quality and flavor were so excellent that it came as a surprise to most of the farmers, who have been led to believe that cheese making cannot be successfully carried on in Tennessee. The careful manner in which the work on the University farm is administered and the tidiness observed everywhere were not the least appreciated of the many valuable observations made on the farm. The Experiment Station as now conducted is a model of its kind.

The lessons gathered from the conven-

tion were many and evidenced more than ever the importance of farmers meeting together and exchanging their views and ideas in order that they may have the broadest culture, the clearest information and the best knowledge of their business. The meeting was voted a great success, and thanks were expressed to all those who had taken part in making it the best convention in the history of the organization. It is safe to say that its influence will be far-reaching and helpful to southern farmers and that the next convention will be looked forward to with great anticipation by all those who had the good fortune to attend this one.

Nashville, Tenn. REPORTER.

NATURE STUDY LEADING TO AGRICULTURE.

Editor RURAL WORLD: What is nature study? What are its aims? What principles of education are involved? How is it related to other subjects? These are some of the important questions that arise when this subject is mentioned.

For some years there has been a fierce struggle in higher education between the advocates of the classics and the advocates of the sciences. This contest, though not settled, has brought many to see good in both views of the purposes of school training. The classic advocates acknowledge that the teaching of the sciences, instead of lessening the interests in the classics and the humanities, has made it possible for more to be accomplished in them.

Until very recently, the work in the elementary schools, especially in the rural schools, had been confined to the study of formal things, to the study of man and man's way of conveying thought. Little attention had been given to the study of nature, of physical influences. To center thought in the study of natural environment is what is called nature study.

The ultra scientific will say that the aim of nature study is to prepare the way for scientific investigation. Such prefer to call it "elementary science" and are inclined to discredit any nature work that does not adhere strictly to scientific principles. To them the ultimate aim is agriculture, horticulture, or some other form of scientific investigation.

The ultra "book-learning" people who see nothing in school work but "culture," and that kind which affords no spiritual man, are apt to push nature study aside as a "fad." There are those of us who believe it possible to bring boys and girls, through the study of animal and plant life, into more sympathetic and loving relations with nature, to appreciate its beauties and harmonies, and at the same time through related literature, get culture of mind and heart while studying the practical aspects of nature.

For him who studies the child as well as the subject, there is vastly more in "nature and culture" lessons than a happy blending of the practical and cultural elements in education. It is a question of method, not of aim.

Nature study exalts the child, the individual. Each child must see and think and express for himself. When pupils begin to see things from different viewpoints and each tells it as he sees it, the teacher who has with intense interest the continual saying of words. Whether the things learned are of any consequence or not, a child's mind is what counts in the schools will lead to better methods in teaching reading, language, literature, geography and in fact to better results in all the recognized work of the school. The two purposes, the acquisition of knowledge and the development of power, can be most happily united in nature study. It keeps interest to the highest point and with intense interest there is hardly any limit to what children can do. Without interest little will be accomplished, either in acquiring knowledge or in mind-culture.

The main purpose, then, in urging nature study in the rural schools is not "practical" agriculture and horticulture, not altogether to lay the foundation for higher study of the sciences, although these must not be lost sight of in planning any course of study. It will not do to emphasize the utility in nature study, for the child's mind is not to be trained to the highest general welfare of the community. Whether the community is agricultural in a broad or limited sense, whether the development of it and into what direction these special lessons shall be carried.

Missouri is more an agricultural than a mining, manufacturing and commercial state, hence the necessity of giving nature study above the fourth year in the rural schools a trend leading more directly to agriculture. The lessons presented by Dr. Thom in the bulletin for June are about the beginning of a series of "rations" in the mental diet for children as well as in the physical diet.

Nature study on its practical side will gradually develop into the study of soil, of plant life and the adaptation of one to the other; into the study of the relation and interdependence of animal and plant life; then into man's control of all these forces to the highest general welfare of the community. Whether the community is agricultural in a broad or limited sense, whether the development of it and into what direction these special lessons shall be carried.

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The Dairy.

A LIBERAL EDUCATION
Is Demanded by Modern Dairying.

Among RURAL WORLD readers there are many who are becoming interested in dairying and are considering the advisability of engaging in this line of farming. We are glad to note this tendency, believing that a development of the dairy industry will be greatly to the advantage of the state as a whole and to those who take up and follow intelligently this line of work.

We say, "follow intelligently." We have said, and say again, with emphasis, that while agriculture in all lines calls for the exercise of trained and well-stored minds, in no other line is there more need of such minds than in dairying. A detailed statement of all the factors, forces and processes involved in what we speak of under the general term of dairying would probably astonish many of our readers; it would require many volumes in which to record all of the facts, and when completed the record would contain a generous proportion of the sum total of human knowledge.

Let us look but briefly at one process, that of separating the cream from milk by means of a centrifugal separator. This machine was invented by Dr. Gustav De Laval of Sweden and introduced in Europe in 1879, and in this country in 1881-20 years ago. There are now in daily use hundreds of thousands of De Laval separators and thousands of other makes, and the dairy industry has been revolutionized in consequence.

The invention of the centrifugal separator was not an accident, but resulted from a knowledge of milk, and that knowledge covered a wide range and included the chemical and physical characteristics not only of milk, but of other matter.

An examination of fresh milk with a powerful microscope reveals the fact that what appears as cream when the milk is allowed to stand, exists as minute particles of fat floating around in the mass of milk. Now, suppose one were to start with this one fact that is revealed to the brain through the sense of sight, aided by the microscope, namely, that butter fat exists in fresh milk in the form of minute particles and that these have a tendency to rise to the surface, and try to get answers to all the questions that should be asked relative to it: What is butter fat? What does it come from? What of the digestive processes that result in butter fat in the milk? What of the animal and her varying powers of digestion which result in a greater or less proportionate or absolute quantity of fat in the milk secreted? How is the most desirable type and specimen of cow, with reference to quantity and quality of butter fat particles in the milk, obtained? What food will best enable the cow to secrete a desirable quantity and quality of butter fat? What are the physical and chemical characteristics of this food? What climate, soil, methods and processes are best suited to the preparation of the best amount and quality of food which, when fed to the best type and specimen of a cow, will enable her to secrete the largest quantity and best quality of butter fat in the milk? These questions lead us to the bounds of human knowledge, and yet we have not touched on that phase of the subject where the separator appears on the scene.

If we go back to the first question, "What is butter fat?" as a starting point and ask it in this form: What are butter fat particles? It will lead us in another direction. What is the physical and chemical relation of the butter fat particles to the mass of milk? Why do these particles rise to the surface? Why do some rise more quickly than others? What effect does temperature have on the rising of these particles and why? What is gravity? What is specific gravity? What is centrifugal force? And here we are again at the farthest limits of human knowledge and understanding, considering a force that holds a universe of worlds in its grasp and yet controls the movements of the particles of butter fat in milk.

To man was given the privilege, not simply of knowing of these facts and forces, but of putting them to human use; and this is what Dr. De Laval did when he devised a mechanical contrivance by which he could swing the earth around the sun to the common-place (?) operation of separating the butter fat particles from milk more quickly than nature, unaided, would do it. This machine is one of the triumphs of inventive genius of the nineteenth century, in the principles involved, the nicety of construction and in the accuracy of operation. A study of the cream separator ought to interest all farmers and be to them a source of pride in that it is an illustration of how high a degree of intelligence finds scope for activity in one of the ordinary occupations of the farm.

Then we have the Babcock milk tester with its use of centrifugal force and chemistry in determining the butter fat content of milk; apparatus for testing the acidity and keeping quality of milk, and the development of the science of bacteriology in its application to milk and methods of destroying bad and cultivating good bacteria.

All of this adds wonderfully to one's interest in dairying, and to the opportunities for success, for more and more is becoming dependent upon the degree of intelligence with which one follows his calling.

We urge, then, upon our readers, those who are already engaged in dairying and those who are considering the advisability of doing so, to study the subject as thoroughly as opportunities will permit; and he who gets a comprehensive knowledge of dairying will have a pretty liberal education.

COWS IN DEMAND.

Editor RURAL WORLD: It is reported to us that the creameries at Flora and Sallor Springs, Clay Co., Southern Illinois, are taking care of all the milk there is in the territory, but there are not enough cows in that territory, nor are they to be had in the immediate vicinity. Possibly you may know of some one that would place a few cow loads there and thus do good all round.

With Creamery Pkg. Mfg. Co.
St. Louis, Mo.

WHY DAIRYMEN PROSPER.

One reason why the people engaged in dairying are prosperous is because dairying is a cash business. There is no credit with the old cow. You feed her to-day and to-morrow she pays you back in cash. The dairyman doesn't have to tell his hired man that he can pay him when he sells his wheat, or when he sells a bunch of lambs, or when the peaches are marketed. He has the cash every week or every month. The dairyman need not run a bill at his grocery or anywhere else. His business is a cash business, and he can pay as he goes. This is one of the basic principles of prosperity. Run up no debts, pay as you go. It gets a man into the habit of doing business on business principles, and when he does this he has started on the road to prosperity, declares "Dairy and Creamery."

Again, the dairy business is a continuous business. It brings in cash every week in the year. The fruit man or the wheat man, or the steer man, or the lamb man, gets his money in large sums and at irregular intervals. This tends to extravagance in expenditure. When people have lots of money they spend lots, and when the source is cut off they feel it severely. The dairyman's income is more uniform and steady, and he governs his expenditures accordingly. He is not flush at one time and totally strapped at another, but has a modest, uniform, continuous income, and is thereby made more prosperous.

Dairying is a safe business and therefore brings material prosperity to a person or a community. People have been financially ruined by fattening lambs or cattle, and, in some instances, by growing fruit or wheat. But no one ever heard of a man becoming bankrupt in the dairy business. These other businesses may at times bring a larger profit, but there is a large element of speculation about them. The dairy business is almost devoid of speculation. It is a rather slow, humdrum sort of business, but it is safe, and one can put his money into it with the assurance of a modest profit from year to year.

If crops fail in almost any other kind of farming the farmer is flat, but even if he has a good herd of cows, he can buy all his feed and still pay expenses and have a small profit besides. Dairying may be a little slow, but it is sure.

MAKING PRIZE CHEESE.

Let me say as a preliminary statement that the making of premium cheese depends very much on the quality of the milk, and after many years of experience I am compelled to admit that there are but a few days in the whole year when all the conditions seem just right for making the finest quality of cheese. In this latitude, a few of these days usually come in May, and a few more in September or October. I am not able to detect these conditions at the weigh can, but about the time the curd is ready to dip the fine aroma makes its appearance. But even this may be destroyed by a few hot days after the cheese are in an ordinary curing room, writes C. B. Merry in "Orange Judd Farmer."

Heat is applied so as to have the milk warm enough to set as soon as the required amount is in the vat. About one ounce of some good color is added for each 1,000 pounds of milk. The milk is thoroughly stirred for about five minutes, then stirred two or three times in the next ten minutes, when the contents of the vat should be at about 85 or 86 degrees. Measure out four ounces of standard rennet extract for each 1,000 pounds of milk and mix with a gallon of warm or cold (not hot) water. Pour quickly over the top of the vat of milk and stir vigorously for five minutes, then keep the top slightly agitated to prevent the cream rising until the bubbles begin to show the approach of coagulation, which should occur in about fifteen minutes.

Cut the curd lengthwise as soon as it breaks clear over the finger, which will be in thirty to fifty minutes from the time of adding the rennet. Allow the curd to settle until the yellow spots appear on the whey about the size of a quarter of a dollar. Cut crosswise. Apply the heat gently at once, stirring carefully with the hands until the heat reaches 90 degrees, which should be in about half an hour. After that the stirring may be done as well with the rake, and the heat should be increased until the desired heat (96 to 102 degrees) is reached in about 30 minutes more. Keep on stirring for twenty or thirty minutes longer, then stir occasionally until the acid begins to develop. This may be first detected by the squeak when biting between the teeth. If the acid is coming fast, start the whey at its first appearance, and have the whey all drawn off by the time the threads will pull from one-eighth to one-quarter inch on the hot iron.

If fairly cooked, dip into the curd sink at once and keep stirring until the whey runs a stream about the size of a lead pencil, then mix in about one-half of the salt. Stir until the curd begins to be mellow and oily, then add the remainder of the salt, two and one-half pounds to 1,000 pounds of milk. Mix thoroughly for at least fifteen minutes longer, and put to press as soon as convenient.

William Ashnauer, of Baltimore, Md., has been fined \$100 and costs for violating the oleomargarine law.

NEW MILK PRODUCT.

"Plasmon" Tried in Germany as an Army Ration.

A new milk product is reported by "Chambers Journal" as follows: Many new industries have been developed in the British Isles at the close of the last century. One of the most novel had its birth in the vicinity of Buckingham—namely, that of the manufacture from the milk of creameries, after the butter had been extracted, of a substance known by the highly classical name of plasmon. This substance takes its name from the Greek, meaning "that which gives form."

The fresh milk as it comes from the cow is put into a separator, all the cream being removed by this method. The separated milk is afterward treated so as to coagulate all the proteins of the milk; and this coagulated mass is then kneaded and dried at a temperature of 70 deg. centigrade under an atmosphere of carbolic acid gas. When perfectly free from moisture the plasmon is ground into a granular powder which is completely soluble in hot water.

As to the economic value of plasmon there can be no doubt, when it is known that the German government supplies it in very large quantities to the army and navy. As a portable, concentrated nutrient, according to the German government department for the investigation of food-stuffs for the troops, it has been found that one ounce of this powder is equal in nourishing and sustaining properties to three and a quarter pounds of the finest beefsteak, or to about 10 or 12 pints of milk.

THE SCHMIDT CURE FOR MILK FEVER.

C. D. Lyon has told our readers about the Schmidt cure for milk fever, but the matter is of so much importance that it will bear repeating. The following is as published by "Hoard's Dairyman" in answer to an inquiry:

Dissolve 3½ drams of potassium iodide in a quart of water which has been previously boiled, and keep the solution as nearly as you can the temperature of body blood. Then milk every drop of milk from the cow's udder, and clean with soap and water; when dried disinfect the udder and teats with a solution of Zonoleum (1 teaspoonful to a pint of water). Then take a small glass funnel and attach to same a rubber hose about 4 or 5 feet long, affix to the end of this hose an ordinary milking tube, insert the milking tube into the teat and slowly pour in your solution, dividing it equally between the four teats; when this is done apply massage to the entire udder for 5 or 10 minutes every hour, until the cow comes to her feet. Do not allow the calf to suck during the time the cow is being treated. If the cow is costive, remove the contents of the rectum by hand. 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HORTICULTURAL TALKS

per cent of sugary matters, and nectar 33 per cent. For every pound of honey stored, the bees must bring in 2 1/3 pounds of nectar.

Home Circle.

GREATNESS.

By Ella Wheeler Wilcox.

There is but one great virtue to pursue,
One quality to seek—unselfishness.
In its four-syllabled environment
Lie all the other virtues; it contains
The world's redemption.

Put aside your creed.
Lay text-books on the shelf: Let dogmas
Go!

Pray much or little, but from dawn to
dusk
And dusk to dawn think naught, say
naught, do naught
To harm or trouble any living thing.

Climb without crowding others; there is
room
For all God's creatures in the world he
made.

Ask nothing for yourself but usefulness,
Since that embraces all the ways of
peace.

Though glory weaves no laurels for your
brow,
He who is always kind is more than
great.

WHIFFS FROM ROSA AUTUMN'S
GARDEN.

The editor and family were the recipients
of a collection of roses from Rosa
Autumn of Rosedale Farm; and the nom
de plume of the sender and the farm
name, judging from the beautiful collection
of roses received, are most appropriate.
These roses were of the choicest and grace
the dining table looking as fresh as if
picked this morning instead of having a
car ride yesterday. Without a single ex
ception it is the finest collection of roses
we ever saw that came from a farm home.

Let farmers have more rose gardens; it
will take the drudgery out of life. These
roses from Rosedale Farm reveal one of
the whys of the serenity of the life of
Rosa Autumn.

Written for the RURAL WORLD.
RECOLLECTIONS.

The sun had just hidden himself behind
a beautiful bank of purple clouds, giving
back one parting ray as a promise of
his returning again soon. This little
beam of light wandered into a home in
the suburbs of a small city, and making
its way into a death-chamber, fell across
a sleeper's face, a face where the great
Destroyer had left his traces.

Alone and solitary sat a man at the
bedside of his dead wife. The sunlight
blotted from his face, he looked a picture
of misery and woe. Ah! how well he re
members the time when the sleeper's
dead face was the fairest and most beau
tiful in this very city; but that was years
ago. Yes, he could hear even now a
faint echo of her gay laughter and
fancied he could see traces of the smiles
which so long ago had ceased to play
about her life.

It was just such an evening when he
asked her to be his wife. The same purple
sunset was in the west; the same
stray sunbeams fell over her hair and
crowned it with their celestial brightness.
He remembers quite well the day he led
Mary to the altar, the proudest, happiest
man in the world. He had, but did not
realize it, and won one of the most
loyal of women in this great land.

All these things are rapidly crowding
their way into the thoughts of this de
seated man, for thoughts of his future are
far too bitter for his dwelling upon them.
For many more are the recollections that
break forth forcing him to look upon
them in a new light.

Three years of married life had passed
by, yet he was alone with his wife; no
childish voices echoed through their home,
no patter of little feet was heard "com
ing to meet papa" as he neared the gate
after his day's work was over. One day,
which he had counted on being such a
happy one, he clasped in his hungry arms
a child of his own, but the little thing
only looked up into his face and smiled,
and then passed into the Great Beyond,
back to the Maker who gave it. Years
passed by and the husband grew to be a
pensive, fretful man. He often scolded
his wife, blaming her for all his cares
and troubles, and accusing her of being
untrue to him.

Here the stricken man bows his head
and weeps as he ne'er had before. Mary
untrue to him; tender, true, loving Mary?
He did not notice the youth and bloom
fading away from his wife's once fair
face; no, he was far too selfish to even
think of the welfare of the one whom,
in happier days, he had often caressed
and called his sweetheart. But the tender
loving wife was slipping away from him
without a complaint or a sigh; yet as she
lay on her deathbed she looked up into
her husband's face and murmured: "John,
I am dying of a broken heart." Ah, how
those words smote him! "Mary!" he calls
her name and drops down by her bedside;
but Mary is gone from him; yes, gone to
her heavenly home, where "God shall
wipe away all tears."

But what of the husband? He is—nay,
let us drop the curtain of gloom and not
look upon this man in his great and aw
ful grief, for it is not for mortal eyes to
see.

MABEL FUNKHOUSER.
Appanoose Co., Io.

Written for the RURAL WORLD.
ACROSS THE DEADLINE IN SEATTLE.

To-night as I sit by my window watch
ing the lights on the hills of this great
city, a vivid longing comes to me to lift
the veil that intervenes. As the Omnip
otent looks into the heart of the children
of men, so would I know the eager, rest
less throng for a moment just as they are.

Rome built on her seven hills became
the glory of the world; even so the day
is coming, when this city will stand with
out a rival, judging by its wonderful
facilities on land and sea. On every hand
houses are being built. It is a city of
gabled houses. New churches are erect
ed. Gas lines extend into what was a
wilderness a few months ago. The emi
grant question is one of grave importance
here. Thousands of people from every
land under the sun arrive here every
week. The citizens fear one of those dis
astrous booms. The real estate boom is
in full blast now.

Has been used for over sixty years
by millions of mothers for their
children while teeth
are coming in. It soothes the child,
soothes the gums, allays
the pain, and is the best remedy for
diarrhea. Sold by Druggists in every part of
the world. Be sure and ask for "Mrs. Winslow's
Soothing Syrup," and take no other kind. Twenty
cents a bottle.

Tuesday we left the Second avenue
street car and wended our way across the
deadline, as the lower part of the city
is called. It is along the water front
with its traffic, its moored boats, its
crowds of men of all conditions and from
all nations. Here men of refinement and
wealth jostle fellow-men with desperate
hardened faces, bleared eyes and gaunt
forms, with all the pathos of a wasted
life written thereon; there is the tired
hand stretching upward, longing as the
leper of old to be clean—longing, per
chance, for love, for home, for friends,
for the loved forms of wives to nestle in
their aching arms, for the patter of foot
falls of little children. Fonder on these
things we at length reach Dr. J. W.
Soto's hospital boat. It is moored fast
to the dock. We shiver with disgust at
the dirt and nauseous smells which greet
us. At the risk of life and limbs, we
make our way across the rickety gang
way.

Our daily ladies remind one of lilies
in the slime, as they make their way
among these grim wrecks of humanity,
whose lives swell the pages of crime. We
found the matron holding a tiny mite of
humanity. She showed us its little de
formed hand. Its life was numbered thus
far by hours. As it was ushered into the
mystery of life on the old hospital boat
last Sunday, a strong man in his prime
was crossing the bar into the unknown.
The incorrigible in vice find a haven
here when the storms become too severe
to be borne by even these experienced
mariners on the sea of sin.

Jim Corbett's brother is here; he is an
California prize fighter knows of it. In one
berth lay an old man totally blind; in
another a man was dying with some
loathsome disease. A boy was carried to
his chair unable to stir hand or foot
with rheumatism. There was a man in a
drunken sleep with his head on the
table. An old man battered and bruised,
with his arm in a sling, sat by the side
of a young girl who was weeping over
the loss of her father.

A wayward girl came to a knelt by her
father's bed. He held the little baby, thus
showing the love that makes the world
kind.

For the first time we now listened to
the story of Dr. DeSoto's work among the
fallen, how he preached in a hall in the
city, often sheltering the outcasts, where
he had spoken to them of divine love,
of divine pity. This work makes his life
the grand thing it is. He had to leave the
hall; the owner wanted it for a saloon.
Wandering along the wharf one day he
found this old boat lying on its side. He
bought it, cleaned and refitted it, and it
has become a permanent institution. Dr.
DeSoto is away in the mountains working
hard to get funds for his work. As we
leave our hearts utter a benediction on
this tireless worker in the slums. We
passed a priest as we went our way into
God's beautiful sunshine. "Poor Law
rence, he is going fast," said the matron
as she passed the priest. There was no
need to tell the rest of the story.

It was our first contact with real vice
and its awful consequences. Where had
we been? Was this the same beautiful
world we had always lived in? Like one
in a dream we went back to Pioneer
street, where the famous Totem pole
stands on the public square.

You remember what a fuss was made
over this Totem pole, which was taken
from the Alaska Indians by some en
terprising gentlemen, who were on an
expedition there. They had to pay for it,
to be sure. This pole is 30 or 40 feet high
with huge, grotesque figures carved on
it of men and animals, such as were
never seen by mortal man. It is carved
out of a great tree. These totem poles
mean as much to the Indians as our flag
does to us, with our family traditions
thrown in.

We lunched downtown and afterwards
we took the street car to the Florence
Carrington Home for the Unfortunates.
The way led past Brighton Beach, on
Lake Washington, far out among the
woods and hills, with the most beauti
ful scenery on either side. We found the
home a spacious mansion. It is complete
with every comfort. It is situated on a
sloping hill, and it overlooks Lake Wash
ington. Here the unfortunate girl may
find a permanent home if she tries to de
serve it and wishes to stay. She must
stay here six months at the least. Little
children nestling in girlish arms told
the old sad tale.

The sweet-faced matron told us the story of sin under its gilded
form. It was far removed from the life
we were accustomed to the old hospital boat;
yet we wondered wherein lay the differ
ence between the two.

The sunset lights up the mount with
grandeur no pen can describe, as it stands
like a sentinel of the eternal in its white
splendor guarding the city, although it
is many miles away. It stands there as
if in mockery at the narrowness of self
and frailty of humanity. The evening
shadows fall over Lake Washington and
the Sound, with their ships from strange
lands; the lights innumerable flash forth
on the hills and the farce called life is
still being played on to the end.

ELLA CARPENTER.
Whatcom Co., Wash.
(To be continued.)

Written for the RURAL WORLD.
OUR PECULIARITIES.

"To be sure," as an old aunt used to
say, "we can not all belong to Solomon's
first family of children," consequently
we lack wisdom and will sing in our
foolishness to the baby. "Hey-diddle," and
a lot of nonsense we learned from "Mother
Goose." We tried to sing a minor
about judgment day to him, and the little
mouth drooped pathetically, tears gath
ered in the pretty eyes and so we went
back to lullaby and hey-diddle-diddle.

In the short life I have lived, I have
found out that "life is real and life is
earnest." I have gone to meeting and
heard preachers preach their graveyard
sermons, opening wounds afresh that time
had partly healed, and heard the sing
ing of doleful songs to poor old broken
hearted mothers and fathers, and the
good derived (if well, perhaps, I lack the
faculty of discerning—but in my foolish
ness I would rather the sermon had been
more comforting, the singing more cheer
ful.

I admit that until I was about 18 the
world to me was a world of romance, of
flowers, music, sunshine, and I lived
among my books. I was not fit to meet
the world; but since then I have known
what it was to lose by death a dear, lov
ing mother. I have had hard times to
knock at the door and been buffeted
about, here and there, among different
classes of people, but I don't think all
this has made me a melancholy misan
thrope. In this country, where a hired

nurse could not be obtained, and
neighbors are the undertakers, I have
done a great deal of sitting up with the
sick, and the sewing necessary in case
of death. I do not boast; I am only one
of many. I sympathize with all my heart
with those that have cause to mourn,
and yet if I am thankful for a happy,
humble home, a home so humble that
many would grieve to accept my lot; is it
not better than to go on my way sigh
ing and repining? While I would enjoy a
great many comforts and luxuries I do
not possess, I try my best to

"Never give up when trials come,
Never grow sad and blue,
Never sit down with tear and frown
But baffle my own cause."

A housekeeper has not time to repine,
for there are the cooking, washing, iron
ing, mending, sewing, gardening, chick
ens to feed, etc., to take care of.
There was only one person I ever knew
that knew what to do with it. He was
just a lad my husband hired to chop
some weeds out of a corn field. The boy
chopped along in the hot sun with that
Osark hoe, and at the end of every row
(it was in a river bottom) he could see
the cool shady trees leaning over the
rippling water. A boat tied to the
root of a tree added temptation to the
allurement, and—what I cannot but
rejoice in—when his employer hap
pened down to see how he was progress
ing, he found—a boy lazily paddling a
boat around, with the Osark hoe dragging
through the water at his side. A call,
"Fred, what are you up to?" and the
boy looked up at first with astonished
confusion; then with great sang froid he
replied: "I'm soaking this hoe."

If he had led a rock to it and sunk it,
who could have blamed him?

We have our own peculiar grammar, or
rather lack of it. Our plural is often
made by adding an s where a only should
be used. For instance, a neighbor woman
came to me and asked me to cut a dress
pattern for each of her girls. She said:
"I want them made tight waisted in
front and basque-es behind."

Then, too, it is always "hens' nestles."
We always speak of sorghum molasses
as plural number. And it certainly does
seem, about making time, that there is
a great "many of them" spread about.

I have often visited St. Louis, and
at the age of 16 attended school there.
I think the reunion that Ina May spoke
about would be enjoyable. I for one
would like to be there. I think you will
need a log cabin representative. I would
carefully brush all the hayseed from my
hair, practice eating with my fork, buy a
ready-made dress, and if I did not forget
myself and say "Please pass them mo
lasses," who would know I was fresh
from the Osark Mountains?

After reading Mrs. McVey's instructive
letters and forming good resolutions, such
as hunting up my rhetoric, not writing
until I had an interesting topic, etc., here
I find myself scribbling away, and some
one will have to add to my words,
punctuate, make capitals, spell correct
ly, and make parts sensible that are
senseless, which will be hardest of all.

Wright Co., Mo. PINE BURR.
Written for the RURAL WORLD.
A SCRAP BOOK.

The item in Ina May's article regarding
mounting photos reminds me that I
have a nice, practical book of recipes all
from the columns of the RURAL
WORLD, dating back three years; and
I thought some one else might have
one. If the idea was suggested, there
were a great many articles I would like
to have had, but I have to discriminate
for want of room. I used an old book,
cutting out every other leaf. I cut out
the recipes, and at odd times pasted them
on the leaves with mullage. I would get
so interested in the work that I could
hardly stop. There is something fasci
nating about it. The younger members of
the family would enjoy the work. At
first I thought of saving the cooking
recipes that I had tested, but I found so
many other things that I decided to have
a general assortment. So I have swine,
calf, and poultry departments; also
"Ye Editor's Hunting Trips," letters
from Florida and California, as the au
thors of them have written to us per
sonally, some of Mr. Eaton's letters, and
some of the Home Circle letters that
were so bright and helpful that I just
had to save them; then there was Eugene
Field's "Jes' fore Christmas," "Aunt
Letty's Pumpkin Pies," and a number of
other little poems. My friends (some of
them) laugh at me for spending my time
pasting, but I enjoy it, and my book will
be full of valuable information. Every
housekeeper knows that papers accompa
nying letters are difficult to keep, but in this
way we save the cream in a handy book
for reference.

As a child I reveled in a scrap book
of my grandmother's. Then in all love
stories, the love-lorn maidens and heart
broken swains died when crossed in love.
It is different now. The style of love
stories has changed, but "all the world
loves a true lover."

If at any time through unforeseen cir
cumstances I should not have the RU
RAL WORLD, I will have the book.

Will "Ina May" favor us every week
with one of her truly delightful letters?
I enjoy "Sunny Slopes" letters, as I
lived a year in the Osarks. Good bye.
Champaign Co., Ill.

Written for the RURAL WORLD.
KINDNESS.

Kindness—that's a pretty combination
of a kind, kindred spirits. Two or more
of a kind make a company or a class.
With a spirit of charity for all, we will
yet have our favorites among friends.

The Savior had, and we are not above
our Master. Equality is a potential fac
tor in classifying people and things. The
earthen vessel, drifting along in the cur
rent, requested the brass pot to keep at a
safe distance. The two represented
classes antagonistic in quality, hence
they could not be company to each other.
So it is in human life. We naturally
seek our quality and our class. This is
in obedience to the law of harmony. How
finely this is shown in the family where
love and peace prevail. Such a home is
a strong element of society and the re
public.

JASPER BLINES.
Clark Co., Mo.

WHAT IS A LADY?

What is a lady? Oh, not a pet miss,
Greeting her friends with a smirk and a
kiss;
Calling them "angel" and "darling," and
"dear";
Always affected and never sincere;
Dressed to perfection, rouged, perfumed
and curled;

Known not beyond her own frivolous
world;
Courtied by many, but honored by few;
Pitied and shunned by the honest and
true;

Learning false art in frivolity's school,
The toast of the rake and the fop and the
fool;

Flaunting her beauty at concerts and
Skating-rinks, operas and afternoon
calls;

Singing slang songs in unmusical tones,
Or whispering foul scandals with "Dear
Mrs. Jones."

What is a lady? An angel of light,
Tolling for others from morning till night;
Modest, retiring, wise, thoughtful and
kind;

Gracious, benevolent, pure and refined;
Bearing her gifts to the cottager's door;
Honored and loved in the homes of the
poor;

Too sacred her smiles for the fool or the
rake;
Though wise men and true men, would
die for her sake;

Dignified, sensible, patient and brave,
Simple and natural, tender and grave
Greeting the weary with soft loving
words;

The friend of the children, the flowers,
and the birds.
There is love in her glance, there is
balm in her smile;

Her lips breathe no scandal, her heart
knows no guile;
By the side of the cradle she trills her
sweet song;

Busy, industrious all the day long.
What is a lady? A blessing to life,
All worthy the title of "mother" or
"wife";

Trained in the school of religion and
truth,
A comfort to age, and a guardian to
youth.

Black, brown, or golden-haired, she must
be fair,
Empress or peasant, her life is a prayer;
Be she in satins or homespun arrayed,
This is the lady that Nature hath made.

When the baby comes.

Where did you come from, baby dear?
Out of the everywhere into here.

Where did you get your eyes so blue?
Out of the sky as I came through.

What makes the light in them sparkle
and shine?
Some of the starry spikes let in.

Where did you get that little tear?
I found it waiting when I got here.

The fact is as sad as it is true that the
baby finds the tear waiting to dull its
blue eyes and stain its soft cheeks. At
the first it "has no language but a cry."
Its one necessity is but to give expres
sion to its suffering, and for that a tear
suffices.

The mother who stoops in anguish
over the wailing child would do any
thing to ease its suffering. But she is
helpless. The time when she could have
done so much for her child is past. She
did not realize that in those anxious
nervous days when she shrank from the
ordeal of motherhood she was preparing
suffering for the baby.

The path of motherhood is soothed
and made easy for those who use Dr.
Pierce's Favorite Prescription. It gives
physical buoyancy and mental bright
ness. It tranquilizes the nerves, en
courages a healthy appetite and induces
refreshing sleep. It gives the mother
strength for her hour of trial, and the
confidence and content which come
from strength. It makes the birth hour
practically painless, and by increasing
the natural food secretions, it enables the
healthy child to enjoy the happiness
of nursing his mother.

"Favorite Prescription" contains no
alcohol, neither opium, cocaine, or any
other narcotic.

A Mother's Gratitude.

"I would like to express my gratitude to
you for the benefit I have received from
your wonderful medicine."

"Favorite Prescription" writes Mrs.
H. C. Anderson, of South Britain, New
Haven Co., Conn., Box 30.

"During the first month of
expectancy I could keep nothing on
my stomach. Was so sick that I had to
go to bed and stay
for weeks. I tried different doctors, but
with little benefit. I read about many being
helped by using your medicine, so I thought I
would give it a trial. I began to take your 'Favorite
Prescription' in November and I had a nice
little girl baby in February following. My baby
weighed over eight pounds. I was only sick
one hour and got along nicely afterward;
was up and dressed on the eighth day. I never
had the doctor with me at all; just the nurse and
myself. I was very comfortable. I think Dr. Pierce's
Favorite Prescription is a true mother's
friend. It helped me wonderfully. The
baby's second child, with the first one I did
not have. I was very comfortable. The little
lived just about two months and she was sick all
the time. This last baby is as plump and
healthy as any mother could wish."

Much Better Health.

Mrs. Annie Blacker, 69 Catherine Street,
Bryn Mawr, Pa., writes:
"I have been using your medicine for
years. My health was very poor; I had four
miscarriages, but after taking Dr. Pierce's
Favorite Prescription I have much better health,
and now I have a fine healthy baby."

Dr. Pierce's Common Sense Medical
Adviser in paper covers is sent free on
receipt of 21 one-cent stamps to pay ex
pense of mailing only. Address Dr. R.
V. Pierce, Buffalo, N. Y.

CLEANING DINING-ROOM TABLES.

Dining-room tables marked by hot
dishes can, with little pains, be rendered
impervious to any reasonable degree of
heat in dishes by treatment in the fol
lowing manner: To one pint of linseed oil
take two ounces of black resin, two ounces
of spirits of nitre, four ounces of dis
tilled vinegar, one ounce of spirits of
salt, and three ounces of butter of antimony.
The table to be washed on alternate days—the
first day with boiling water, the second
with the above mixture, and the third
with vinegar. If this process is re
peated for a little while the table will
become hardened against the encroach
ments of hot dishes placed upon it with
out a mat, and anything spilled upon it
by accident will leave no mark after hav
ing been wiped off.

FORGET.

Put a seal upon your lips and forget
what you have done after you have
been kind. After love has stolen forth
into the world and done its beautiful
work, go back into the shade again and
say nothing about it. Love hides even
from itself.—Drummond.

SOME GOOD RECIPES.

STRAWBERRY CHARLOTTE.—Make
a boiled custard of one quart of milk,
the yolks of six eggs and a small cup of
sugar; flavor to taste. Line a deep dish
with slices of sponge cake; lay upon
these ripe strawberries sweetened to
taste; then a layer of cake and straw
berries as before. When the custard is
cold pour over the whole. Beat the
whites of the eggs to a stiff froth, add a
tablespoonful of sugar to each egg, and
put over the top. Decorate with large,
fine berries.

FRIED PORK.—If your pork ricks white
and limp fry it in butter; that will
brown it nicely and make it look more
appetizing. If the pork is old and strong,
slice it and leave it in cold water over
night. If for breakfast take out, roll in
flour and fry in butter. If for dinner,
change the water in the morning, then
take out of second water at noon, sprinkle
with salt and pepper, roll in flour and fry
in butter. This makes a big improve
ment.

SCALLOPED CHICKEN.—Dress a
young chicken, cut up in the same man
ner as you would to fry; flour well.
Have one tablespoonful of butter and one
of lard, hot in the spider, lay the chicken
in, sprinkle with salt and pepper. When
one side is browned turn over and pour
over it one pint of boiling water. When
one becomes tired of plain fried chicken
there is nothing nicer than the above.

FRUIT CUSTARD.—A delicious "fruit
custard" may be made by boiling one
quart of milk in a double boiler. Beat
two eggs very light and stir into them
four tablespoonfuls of sugar and one
tablespoonful of flour. Add to this a little
cold milk, then stir it gradually into the
boiling milk, stirring until it thickens;
set it away to cool. When cool, flavor
with vanilla. Have ready in sauce dishes
strawberries or sliced oranges, or any
fruit in season and pour the custard over
it. This is a very simple and palatable
dessert.

QUICK FRUIT PUDDING.—Grease a
small dripping pan and spread bottom
with fruit. Little quantities of different
kinds can be used and should be moist
enough not to burn. Pour over it evenly
the following batter and bake: One egg,
one-half cup sugar, one cup of sweet
milk, one and one-half cups of flour, one
spoonful butter, baking powder one heap
ing spoonful. Turn out on plate, and eat
with sweet cream. This recipe is large
enough for six.

THE INCUBATOR.

Editor RURAL WORLD:
My father bought an incubator heated
by hot water. I took charge of it and
tried to follow the instructions as best I
could. I did fairly well with the first
hatch until the eggs began to pip. My in
structions were to close it up and let it
alone. I did so, and took out 120 chicks
and some 30 or 40 dead in the shell. The
next time I opened it up two to three
times a day and got 180 with very few
dead in the shell. The third hatch, now
off, was about the same as the second,
with 180 chicks from 240 eggs to start
with. I am told by experienced poultry
raisers that two-thirds under hens is
good.

ROSE ROBERTSON.
Monteau Co., Mo.

INCUBATOR EXPERIENCE.

A very general experience this season
with incubator handlers is that the yolk
of the egg is not absorbed into the body,
and sometimes adheres to the shell at
the twenty-first day. Some attribute
this to the eggs not having been prop
erly turned, and others to their having
been turned too often. A more likely
cause is in their having been in a too
continuous high temperature.

In incubation two forces come into
play, one represented by heat of the ma
chine or hen, the other the nutritive ma
terial of the egg. The vital activities of
these two are designed by nature to fol
low one another. Therefore, the embryo,
to develop perfectly, must not be sub
jected to a constantly even temperature,
but there must be intervals of rest from
heat, so the nutritive elements can do
their part. Eggs from the same source
were set under two hens. One nest was
under the bushes in the garden and with
the hen free to act her pleasure. The
other was in a house and with the hen a
prisoner in the covered nest except for a
brief time off for feeding, when she was
hurried back under cover again "lest the
eggs should become chilled." The first
gave a healthy, lively chick for every egg,
while from the second part had died in
the second week, part of those living
through had not absorbed the yolk sac,
and the two that came out whole died
next day.

The continued heat caused too rapid
evaporation of the liquids of the egg, and
of those that survived to the last the em
bryonic growth was ended too quickly,
the structure of the body being complet
ed without a sufficiency of the nutritive
material from the yolk sac being absorbed
and with the abdominal cavity too re
stricted to receive it. In like cases, some
times, the yolk sac is forced inside, when
the chick dies of suffocation, in that the
sac crowds upon the vital organs. Rec
ognizing this danger, the attempt has
been made to cut the sac, and after re
leasing part of the contents, trusting to
nature to absorb the rest. Chicks have
lived after the operation, but have al

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house, Pure "old Dutch process" White Lead
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National Lead Co., 100 William Street, New York.

ways been weakly and worthless for
every purpose.

This lot of poultry, numbering forty
birds, mostly cross bred, have a constant
supply of corn, millet once a week and
mixed feed with meat on Sundays. They
have free range and plenty of water.
They came through the winter without
sickness, but with

Pain-Killer

Cures Coughs, Colds, Sore Throat, Croup, Diphtheria, Rheumatism, and all Winter complaints. It

Kills Pain,

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THE BUSINESS FARMER

Advance Fence. This is a series of subjects that will interest the hog raiser and should draw a good attendance. The second day of the convention is devoted to practice in judging hogs by the score card system. This feature will be conducted by the National Association of Expert Judges of Swine.

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Direct from maker to user. 75-lb. stone, diameter 30 inches, \$3.50. 30-lb. stone, diameter 24 inches, \$2.50. 15-lb. stone, diameter 18 inches, \$1.50. These prices include cost of delivery at nearest railroad station. Write for circular. F. L. COLLS, Marietta, Ohio, Lock Box 301.

Choice Lot of Sept. and Oct. Glits

to breed in May. A few sales same age. Sold out on other ages. G. G. Richards, Sturgeon, Mo.

BERKSHIRES.

LARGE ENGLISH BERKSHIRES—40 buys a pig of either sex, best of breeding. L. P. CHICHESTER, White Plains, N. Y. GEO. W. MCINTOSH, Monett, Mo.

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POLAND-CHINA—We have some extra, fancy sires of 150 lbs., and some fancy pigs of both sexes of all colors to order. Write for circular. L. A. Spies, Breeding Co., St. Joseph, Mo.

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Poland China sires, Black U. S. 18715, 18716, 18717, and Jersey Cattle for sale. Black Langshan Hens \$1.50 for 10. Ernest W. Wallen, Monett, Mo.

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breeders of the best strains of Poland-China sires. Registered Jersey cattle and Plymouth Rock chickens. Young stock raised as all time.

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and individual merit combined. B. L. OGDEN, Carmel, White Co., Ill.

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DUROC-JERSEYS—30 boars ready for service. Glits and old sows raised and registered. Write for circular. H. S. WATSON, Cherryvale, Kan.

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DUROC-JERSEY HOGS. I have a grand lot of spring pigs for sale. Write for circular. HARRY SNEED, Smithton, Mo.

ROSE HILL HERD of Duroc Jersey Hogs.

Early pigs now ready to ship. A few choice bred Glits and six good lengthy boars ready for service, for sale. S. F. Thornton, Blackwater, Mo.

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Duroc Jersey and Chester White Hogs. Top individuals. No screenings except. Write for live prices. S. C. WAGNER, Penna. Ill.

Duroc Jersey and Berkshire Hogs!

breeding. Satisfaction guaranteed or you may return at my expense. S. C. WAGNER, Penna. Ill.

FOR SALE

A nice lot of fall pigs, bred by M. S. Perfection, dams are Look Me Over and B. U. S. breeding. Write for circular. S. F. Thornton, Blackwater, Mo.

Prices reasonable. Also bred Hereford cattle. Write for circular. S. F. Thornton, Blackwater, Mo.

Write at once to CHERRY DELL, Hannibal, Mo.

The Pig Pen.

THE IOWA SWINE BREEDERS' ASSOCIATION.

The Iowa Swine Breeders' Association and the National Association of Expert Judges of Swine will hold a convention June 11 and 12 at Des Moines, Ia. On the first day will be presented a program that will include papers as follows: "The Ideal Form or Type of the Coming Poland-China," by W. M. McFadden; "The Future of the Berkshires," by W. D. McTavish; "The Duroc-Jersey," from the Producer's Standpoint," by O. S. O. West; "The Ladies' Favorite," by B. R. Vale; "The Important Period in the Development of the Pig," by Harvey Johnson; "Development of the Boar," by H. C. Strator; "Care and Condition in Farrowing Period," by J. W. Stribling; "The Type for the Farmer," by L. C. Wright; "Preparing for the Sale," by Cary M. Jones; "Present Outlook for the Business," by W. M. Lambing. This is a series of subjects that will interest the hog raiser and should draw a good attendance. The second day of the convention is devoted to practice in judging hogs by the score card system. This feature will be conducted by the National Association of Expert Judges of Swine. Geo. S. Prime, Oklaheola, Ia., is the secretary.

WHEN THE HOGS DIE.

The time of greatest fatality among hogs is where they are compelled to subsist for any considerable time on the dry and most concentrated food, says the "Indiana Farmer." In all experience that is the condition of the greatest ailment in human life. When the hogs are turned into the autumn stubble fields and left to glean on the dry, concentrated food there obtained, if ever hog cholera or any other disease occurs it is the time, at least this is so generally speaking. It is not so much because the seeds of the disease are more prevalent, but because the hogs are forced into a condition which makes them most susceptible to the seeds of disease more or less always prevalent. No animal, not even man, was ever intended to subsist alone on dry, concentrated foods, and the human animal knows too much to risk his health on such conditions. What the hog needs along with these concentrated foods is an occasional succulent ration. With the abundant opportunity to provide for him, clover and rape and bcs, artichokes, and even alfalfa, there is no reason why he should be abandoned to the conditions which invite disease and death. There is not a month of the year when an occasional succulent ration could not be provided for the hog. This, with pure water, would enable him to resist and throw off the germs of disease always prevalent, and sufficiently frequent to kill when subjected to conditions inviting death.

LACKED ONLY A FEW HEAD.

Packing of hogs at Kansas City for the week ending May 18 amounted to 36,468. This was within a stone's throw of the largest on record, which was 94,235 in the first week of January, 1898. That was the only week to exceed last week's total and a difference of only 768 head. Last week's output showed a gain over the corresponding week last year of 30,190 head.

Total receipts of hogs last week were 95,984 and shipments were 3,387. Out of 72,400 received in the corresponding week last year, there were shipped 8,100. Cattle slaughter last week was, with one exception, the lightest of the year, although the proportion of the receipts which ran to killing grades was the largest in some weeks. Shipments of feeders were only 5,000 head, also the smallest of the year. The sheep slaughter amounted to 14,856, a falling off of 2,133 from the same week last year.

Actual disbursements from the yards to each of the various local killers last week were as follows, with comparative totals:

	Cattle	Hogs	Sheep
Armour	4,585	13,391	4,282
Fowler	131	20,555	131
Schwartzschild & S.	5,025	10,401	2,301
Swift	2,328	22,701	4,440
Cuddeback	1,726	16,511	1,726
Ruddy	284	682	157
Omaha Packing Co.	564		
Small Butchers	163	144	63
Totals	14,857	98,496	14,856
Previous week	15,394	90,585	15,394
Same week last year	17,012	68,302	17,012

FALL PIGS.

Many farmers object to fall litters, thinking that they require more care through the winter and that they do not get as large returns for the feed cost. Waldo F. Brown in the "National Stockman" says that it requires more care I admit, but the farmer has more time to care for them. I think with a good warm house and an attendant careful to see that the openings are closed in cold weather I can get as good results from winter litters as from the spring pigs, and taking a series of years I find that I have received a somewhat higher price for my fall litters sold in the spring than from those that were farrowed in the spring and sold in the fall. I think also that as a rule the sows are in better condition for farrowing and less liable to loss of their pigs, and care for them better, than when farrowed in the early spring, especially in March. In this latitude we rarely have cold storms or severe winter weather until late in November and frequently not until the latter part of December, so that our pigs are well started before the weather is bad.

HOW THE MODEL HOG HOUSE WAS BUILT.

According to my promise, I propose to tell you briefly how I built that hog house of mine so cheaply—which is the most important part of it with some of us. If it is a model, it must have this most important quality: that it comes within the reach of the average farmer. Where there is a determined will there also is a way. After I planned my hog house, first in my mind, then on paper, the next thing was to get it on the farm. Like many another farmer, I am not always flooded with cash, so I applied to the highway commissioners for a bridge they were about to replace with a new one. They said that if I would take out the old bridge and fill up the abutments of the new one when the latter was completed, they would give me the old bridge, and to this I agreed, taking out the bridge in two days with one man and a team to help me. This made the floor and foundation. Next I looked around for a roof, and got the timber at 50 cents a load and made clapboards to cover it. After riving them, I took them to the shaving horse

and applied the drawing knife to them, making nice and smooth and capable of years of service. Then I split out the pickets for the partitions and served them the same way, and then secured a load of sheathing from a local sawmill. It was cull stuff and cost me \$1.50 a load; it made not only the sheathing, but the ties on which to nail the pickets for partitions. For rafters I used hewn poles that cost 50 cents a load. None of this would have twenty-two pickets which cost 10 cents apiece. Then I got my siding from the flooring of an old house given me for the taking down. This left but little to buy—twenty-four pairs of hinges, 100 pounds of spikes and about 100 pounds of nails.

BREEDING, FEEDING AND HANDLING HOGS.

A good choice of brood sows is the first thing to consider in the breeding and raising of hogs. I would select full blooded English Berkshire sows, as they are good mothers and very prolific, writes W. R. Murfin in the "Indiana Farmer." Have them in choice condition, and let the farrow be their third one, as by this time they will be at their best. Breed them to a fully developed, full blooded Poland-China male, as this makes an excellent cross, giving the pigs heavy bone, and producing good growthy feeders. I believe they will make better hogs for the market than if they were full blooded of either breed. Have the sows farrowed the last of September, and raise the pigs as near all the same age as possible.

Begin feeding sows new corn as soon as pigs are large enough to follow. Have a run for the pigs away from sows, leaving feed in the same, and by the time they are four weeks old they will have learned to eat, thus favoring the sows very much. The sows should have plenty of good slop and new corn and a good clover pasture while pigs are suckling. Let them run with their mother until three months old. Have sows farrow for winter pasture. The pigs having learned to eat quite young, and having access to good pasture, they will not know when they were weaned. By the time the best of the pasture is gone they will be four months old and ready to begin feeding for market. At this age they should weigh one hundred pounds each. Then for every hog fed, purchase 100 pounds of shipstuf or middlings from wheat. Feed this in the form of hot slop with milk, and give light feed of corn and plenty of slop the first half of the winter. Decrease the slop and increase the corn through the close of feeding; keep the feeding place clean, good warm sleeping quarters. At the end of seven months these hogs should weigh 200 pounds each. They will have passed through any hot sultry weather, when cholera is most liable to attack hogs, and I believe will be as profitable to the farmer as hogs fed any other time in the year.

SUCCESS IN HOG-GROWING.

Writing on successful hog-growing in the "Swine Advocate," J. A. Tuttle, of Vineland, Missouri, says: One mistake made by beginners is overstocking themselves at the start. Commence with two to five sows and go slow.

In the selection of sows, no matter what breed, select large, lengthy, roomy sows or glits. If one is bad in the back, either drooping behind the shoulders, or sunken shape, don't take her. Don't take one bad on her feet, or cut too high behind.

Get sows or glits that show vigor and from a sow that raises large litters. Mind, I said raises large litters.

Some sows farrow large litters, but never raise them, preferring to mash one every time she changes her position. From a sow of this sort I would not use as a breeder one of her pigs, no matter how fine an individual, for I have found that pig mashing is hereditary with some families.

In selecting the boar get the very best you can afford to buy. Don't let a few dollars cause you to take one "just as well bred," but not near so good an individual.

Don't turn the boar out with the sows, but put him in a lot with shade and some grass, at some distance from sows. If placed in sight or hearing, he will fret more or less and not make the growth he should.

If you have not the pasture or plenty of roots, feed about two-thirds shipstuf and one-third bran, at noon, this being the principal meal, with corn morning and night. If mill feed is not too high, feed twice a day, noon and night.

About a week before farrowing, place the sow in separate lot so that she will get accustomed to her house or pen. Give plenty of wheat straw for bedding, shredded fodder or dry leaves, wheat straw preferred. This she will have broken up by farrowing time, and should, there be too much of it, take some out. If it is not cold, very little is needed.

Under no circumstances should you put in long straw just before farrowing, for the little fellows will get tangled up in it, and no matter how careful the mother is, some of the pigs are liable to be killed or injured.

When the sow comes out and acts like she wants something to eat and drink, give some lukewarm water. At the next feeding time if she is out, give water with a handful of shipstuf, gradually increasing her feed until she is on full feed at any time, but keep them so they will always clean up readily what you give them.

Watch the little fellows, and should they show any disposition to scour, give them a teaspoonful of tincture of kino or tincture of catechu. Should they still continue to scour, at the next meal give another teaspoonful. I have used this remedy for years and never gave more than two doses, always checking it at the start.

Soon as possible after farrowing, say in three or four days, remove the old bedding and give fresh, of broken straw or something fine. The old bedding is damp and will assist in causing scours and colds, and will also cause sore tails, which, if not properly looked after, will drop off. For this use a little vasoline or carbolised oil, two or three times is generally sufficient.

When the pigs are four weeks old, put a shallow trough where they can get to it and out of reach of the sow. In this put stop of shipstuf and milk. If you have

The Shepherd.

MISSOURI SHEEP BREEDERS' ASSOCIATION.

Norman J. Colman, President, 1214 Chemical Building, St. Louis, Mo. L. E. Shattuck, Secretary, Stanberry, Mo.

WHY SHEEP SHOULD BE MACHINE-SHORN.

We are asked a great many times, Will it pay to buy a sheep-shearing machine? Our answer is that it will pay a sheep owner if he has twenty-five sheep or more to invest in a hand-power sheep-shearing machine, the price of which is \$15, says an exchange. The principal advantages of shearing sheep by machinery are as follows:

Sheep are not butchered or racked as we have seen them done by hand; the machine leaves them as smooth as a billiard ball. Then, again, there are no second cuts, which depreciate the value of the wool. The staple is left longer, which increases the value of the wool from one to two cents a pound on the London market.

Machine-shearing saves from one-half to one and one-half pounds of wool on each sheep. Again, the greatly improved appearance of the sheep after being machine-shorn must be taken into consideration, which is an important item. They can be dipped or sent to the market immediately after shearing. Unlike the hand shears, no skilled labor is required, and sheep can be shorn much faster by machine without the operator being troubled with sore wrists, as when using the hand shears. Shearing with the machine is so much easier and does the work so much better that, when your day's work is done you feel satisfied that it has been well done.

RAPE AND ITS CULTIVATION. Purdue University Experiment Station Bulletin.

Rape is a succulent plant belonging to the cabbage family. It grows rapidly, making a large amount of green food, upon which pigs and sheep grow well. To make a success of rape, select a rich piece of land free from weeds. Plough deep, then roll or not too moist, and harrow till the soil is finely pulverized and well firmed down. Finish the preparation by running a plank drag over it. Such a seed bed will germinate the seed quickly and enable the plants to withstand dry weather. I prefer to have the ploughing done just before sowing. This will give the rape an even start with the weeds.

Sow with garden seed-drill, three pounds, or five pounds broadcast per acre.

When drilled the rows should not be more than 20 to 24 inches apart. Drill sowing will permit cultivation, which will keep down weeds, conserve moisture and increase the yield. Where drilled the animals destroy less as they walk, and lie down between the rows.

If sown broadcast cover with harrow or weeder and roll. In many cases it is well to roll the drill-sowing also.

The season will control time of seeding. Do not sow until the ground has become warm enough to quickly germinate the seed, as it comes up better and grows more rapidly. Usually it should not be sown before the middle of April—in this latitude of north central Indiana. It is best to sow at intervals of ten days to two weeks. By the use of low hurdles, this will give fresh pasture throughout the season, as the early sowing can be grazed off a second time. This also makes less waste, as the stock does not run over it so much.

Rape may be sown in the corn just before the last cultivation. If the soil is not too dry, it will grow well unless the corn is very large and thick. Where sown it makes splendid pasture for lambs from September till cold weather.

Some men have had success in sowing rape with oats. This, however, is not a sure way, as the season will have much to do with it.

It is a good plan to have the rape patch near the barn and alongside of the pasture. This brings the animals under the stockman's eye, and if a lamb "bloats" it is there to give it attention. If the stock can go freely back and forth between the pasture and rape, it will save trouble, time, labor and even loss. Rape thus supplements the pasture, making fat lambs and good pigs.

Where sheep have access to both rape and grass, they should not be turned on the rape until the middle of the day, when the animals are not hungry enough to gorge themselves, and the rape is free from dew. If they do not have the run of the pasture, turn them on the rape for an hour a day, gradually increasing the time until they become accustomed to it. Then keep them on it continuously till the end of the season.

J. H. SKINNER, Assistant Agriculturist. C. S. PLUMB, Director.

ANGORA NOTES.

Mr. Marion Miller of Missouri lately bought ninety head of grade Angora does in Kansas City to clear up his brush lands. He says they beat woodmen two to one as brush exterminators.

Secretary W. T. McIntire reports the sale at Kansas City during the month of April of a car load of Angora ewethers to Mr. A. B. Wilson of Iowa; a car of Angora ewethers to J. D. Bickel of Iowa; 130 head Angora ewethers to L. A. Mills of Illinois, and a car of high-grade does, two recorded bucks and four recorded does to L. A. Hart of Wisconsin.

The time is coming when nearly every sheepman in the country who has rough, broken brushy hill land, unsuited to cultivation, will want and have a flock of Angora ewes to utilize elements of browsing wealth that not even his favorite wool-bearing can fully command. Sheep for the pastures—Angoras for the rocky brush lands, Mutton, wool and mohair—the pastoralist's money-making trinity.

There is no truth in the statement now going the rounds of the press to the effect that the government of South Africa has imposed an export duty of \$600 per head on Angoras shipped out of that country. A bill imposing such an excessive duty was introduced in the Cape Parliament, but never became a law. Secretary Wilson's statement to the contrary notwithstanding. The distinguished secretary is simply mistaken.

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It is essential for the well-being of all animals that they receive a suitable addition to the ration, not only to restore them if out of condition, but to keep them in the most profitable state of health. This is obtained by Lincoln Feeding Compound which is a great improvement upon and desirable substitute for so-called "Stock Foods." Write for literature regarding this cheap and economical preparation.

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Of the best families at farmers' prices. Write for what you want, or what is better, come and inspect the stock. W. H. KBR, Prairie du Rocher, Illinois.

A YEARLING SHOW BOAR FOR SALE!

That will make a 100 lb. yearling and will show through all of the fairs this year. A few fall glits that will do so under one year and a fine lot of pigs now ready to ship. Come and inspect them. We will treat you right. HARRIS & McMAHAN, Sunnydale Farm, Lamine, Mo.

REBUILT MACHINERY

UNLIMITED SUP

K.

A black and white photograph showing a close-up of a building's exterior. A sign is mounted on the wall, featuring the word 'DORMICK' in large, bold, serif capital letters. Below it, the words 'ENGINE MACHINES' are written in a smaller, similar font. The building has a textured, possibly brick or stone, facade. A curved architectural element, like a pipe or a decorative arch, is visible in the upper right corner of the frame.



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PETTIS COUNTY.—Drouth unbroke it is now six or seven weeks since an in of rain has fallen in this vicinity. Hea

frost May 28; froze beans and corn places. Some weeds a foot high frozen the ground. W. D. WADE
June 1.
Dry weather has injured the crop prospects. The fruit was hurt by frosts.
May 30. JOHN THOMPSON

CAMDEN COUNTY.—No rain amount to anything since April 16; wheat turning yellow prematurely; oats nearly half killed on upland, and remainder of most past redemption. Apples and peaches.

es raining badly, but enough peaches
yet. Corn two-thirds planted; ground too
hard to work now. All spring sown clover
is dead. J. R. MOSS

May 3.
All crops have suffered badly for lack
of rain. Frost on 26th inst. did much
damage to tender vegetation. Total.

May 31.

MISSOURI WEATHER AND CROPS

The U. S. Department of Agriculture Climate and Crop Bulletin of the Weather Bureau, Missouri Section, for the week ending June 3, 1901, is as follows:

Cool, dry weather has continued during the past week, and over a large part

the state the drouth has now become one of the severest ever known. Unless good rains fall soon wheat, oats, meadows and gardens will be almost total failures in many counties. In most of the northwest, many of the northeastern and some of the central and southern counties

wheat still looks well and promises average, or more than an average yield, provided it receives sufficient moisture to enable it to fill, but in many of the central and southern counties the crop has been shortened one-fourth to one-half by the drouth and insects, and in some

tricts will be nearly a failure. Much damage has been done by fly and chinch bugs in portions of the eastern and southern sections, and rust has appeared in many of the southern counties. In a few of the southern counties some fields have been cut for hay. Harvest will begin

the extreme south about the 10th. In very few counties oats still promise a good crop, the most favorable reports being received from the northwest section but over much the greater part of the state the crop will be very light, and many counties practically a failure.

Some localities they are heading only 4 to 6 inches high. Meadows promise well in most of the northwestern and a few in the eastern and southern counties, but in a majority of the northeastern, central and southern counties the outlook for a hay crop is extremely discouraging. A few farmers have done much damage to a

works have done much damage in a number of the southeastern counties. Clover stood the drouth much better than timothy. Some clover has been cut. Pastures are becoming dry and short in many counties and in localities stock has been turned on meadows. Water is also becoming scarce in places. Corn is look-

well in a few counties, but is generally uneven and small for the season, and made but little progress. Much of seed failed to come up and in some the northern and eastern counties worms, moles and mice continue very destructive. In a few counties corn on

lands was severely nipped by the frost May 26, as were also beans, potatoes, other tender vegetables. Cotton is generally well cultivated but has been greatly retarded by the drouth and cool nights. Flax has also suffered severely from drouth and some fields have been plowed.

up. There is complaint that apples are dropping, and in some districts the crop will be light. In a majority of the southern and many of the central and northern counties, however, an average crop is promised. Peaches continue promising a rule. Gardens and potatoes are getting

We are glad to call attention to advertisement of I. A. Spencer, which

advertisement of J. A. Spencer, which appears elsewhere in this issue. Mr. Spencer makes the Alligator Hay Press, which is so well and favorably known by readers. Please refer to his advertisement and write for catalog and prices. Address J. A. Spencer, Dwight, Ill., and mention this paper.

this paper.

is it drudgery. One man with a McCormick machine can do the work of fifteen or twenty men. If you haven't a McCormick call on the McCormick agent in your locality or write at once to the McCormick Harvesting Machine Co., Chicago, U. S. A., mentioning this paper.